

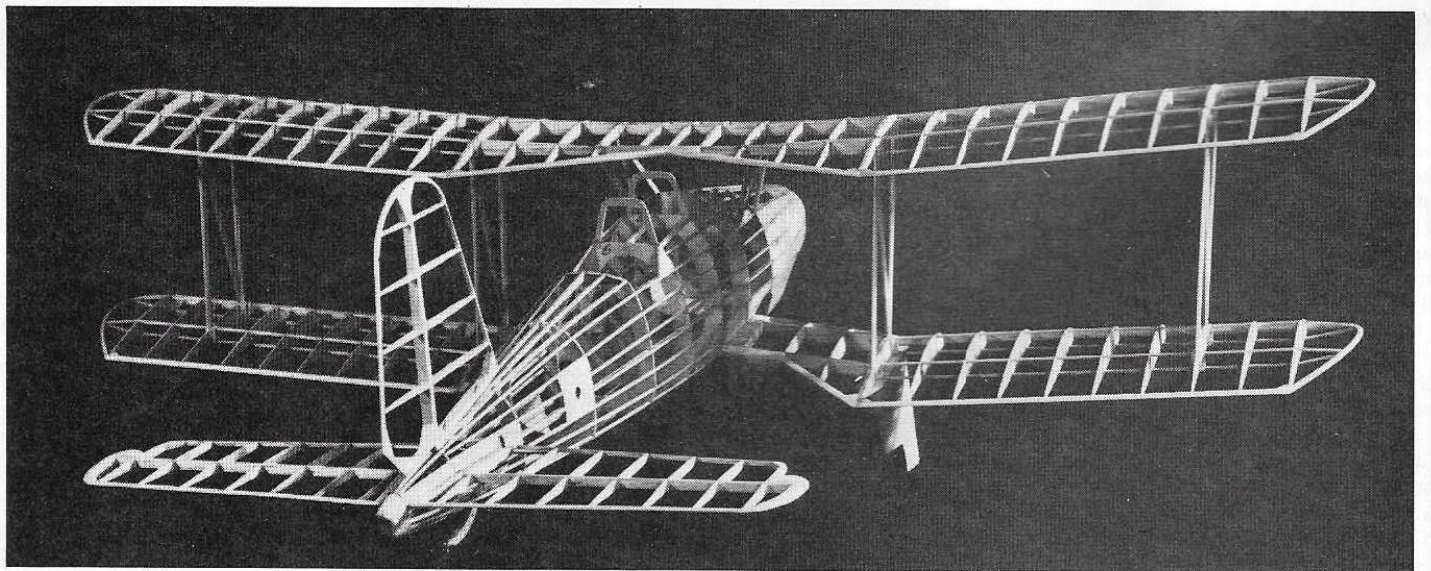


PHOTOGRAPHY: COL. HURST BOWERS

Fieseler Fi-167

By Col. Hurst Bowers

Distinctive planform and ideal proportions for freeflight Rubber Scale highlight this model of a multi-purpose WW II biplane.



The Fi.167 was not a notable aircraft but the photo of the bare framework clearly illustrates that it is an interesting modeling subject.

The first question one may ask is why on earth select the Fieseler 167 as a modeling subject. Well, it all goes back to our favorite past-time in the environs of Washington. Many of us who are members of the diminishing energy elite (talk more - build less) like to spend evenings going through each others' libraries and plan collections and comment on the ugliest airplanes we can find. Well, now just what makes an airplane either ugly or beautiful? Could the old cliché, "beauty is in the eyes of the beholder," apply? Definitely, yes. I like the big old "turkey" biplanes, such as the Martins, Vildebeests, Wallaces, and even the Blackburn Blackburn. To me they are stable and functional machines, and deserve more attention from modelers. But the one that got my attention, from a modeling point of view, was the Fieseler. Everything about it is right. Adequate wing and tail area, wonderful nose moment, and a landing gear designed by none other than a modeler of rubber powered airplanes. It just had to be good; and, it is.

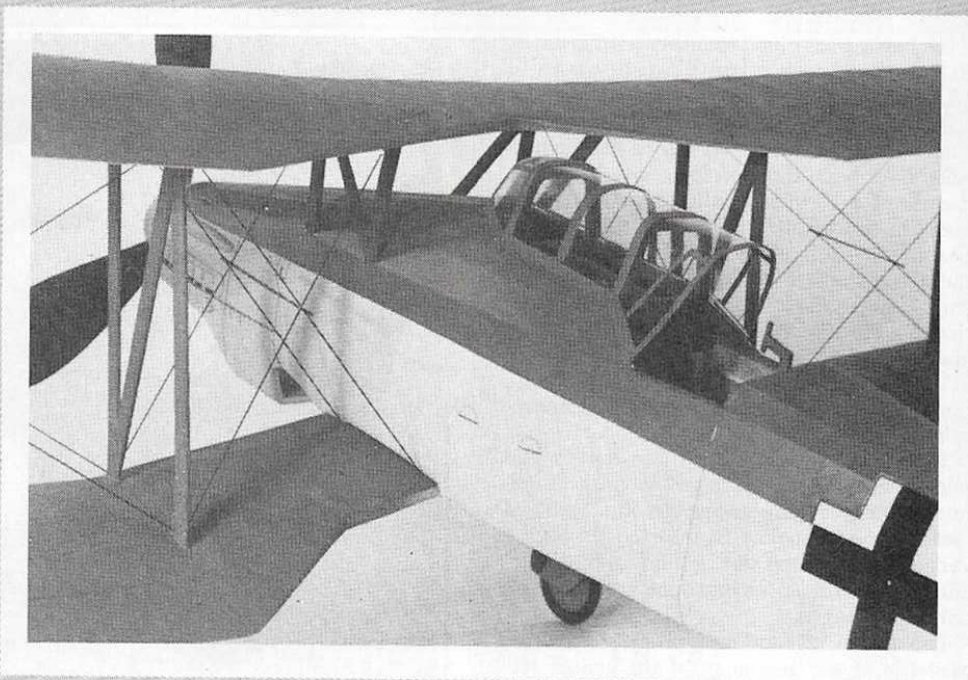
The subject was designed by Fieseler engineer, Reinhold Mewes, in 1937, in competition with Arado for a multi-purpose, ship-board aircraft to operate from the programmed carrier, the Graf Zeppelin. Three of each were produced and tested, the Arado 195 not meeting the required standards. On the other hand, the Fieseler 167 exceeded requirements and a pre-production order for twelve aircraft was placed.

In May 1940, construction of the carrier Graf Zeppelin was halted, but manufacture of the twelve Fi 167 aircraft continued and all were assigned to the Luftwaffe, subsequently being based in the Netherlands and participating in coastal patrol, and other similar missions. As an interesting additional use, three of the aircraft were assigned to the undercarriage test center and used in measuring landing shocks under various load conditions. One aircraft had the lower wings removed just outboard of the landing gear and was successfully tested as a sesquiplane. The remaining aircraft were transferred to Rumania and their ultimate disposition is not known.

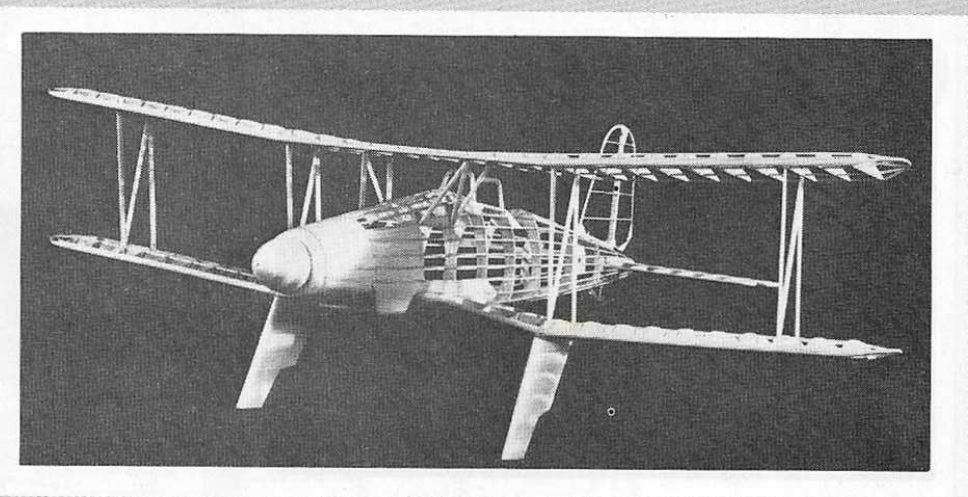
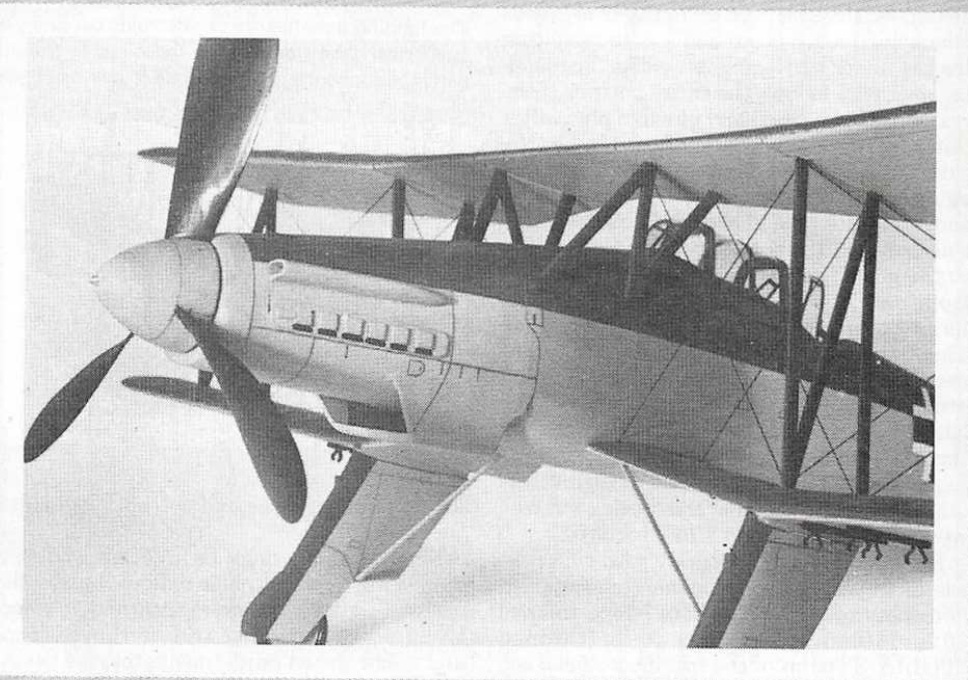
This is not an easy model to build, but neither is it too difficult as construction is entirely conventional. The stringer, half shell former method is used for the fuselage. Little can be said about that except that the keel and master side stringers are made by laminating two pieces of $\frac{1}{16}$ th square balsa together. Alignment and accuracy are of paramount importance. I do not propose to go into a lengthy dissertation as to how to glue former 2 to stringer Z, etc., as this should be quite apparent from the plans. There are, however, several areas and operations which are atypical, and require some clarification and explanation. It is these particular areas which I will address.

Note that the fuselage is constructed minus the radiator, which is made of soft balsa sheet and added after the fuselage has been filled in with $\frac{1}{16}$ th sheet between the stringers on the nose section and top to a point just aft of the canopy. The bottom wing is nested into the lower part of the fuselage between former 4 and 5, the front spar snugly mating against former 4. This should not be permanently done until after covering and final assembly is progressing. At this time stringers between formers 4 and 5 are added under the wing to complete the final fuselage shape after covering. The spinner is built up from

FLYING MODELS



The canopy is a good example of vacuum forming (above). The author used thin acetate sheet draped over a male plug in an old Mattel Vac-U-Form. The radiator and slope of the nose (below) suggest the more well-known Ju. 87 Stuka. The radiator is added after the fuselage is built.



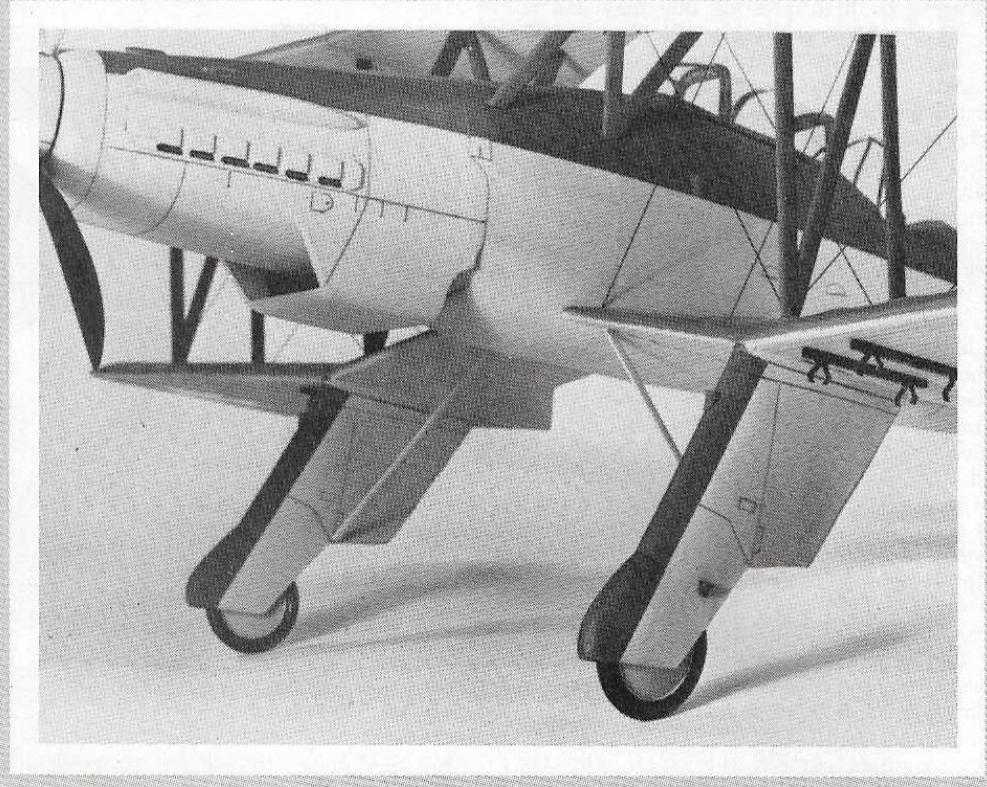
Construction of the fuselage utilizes the familiar, traditional, stringer, half-shell former type of construction. Sheeting in the nose area is soft, $\frac{1}{16}$ balsa sandwiched between the stringers.

$\frac{3}{16}$ th balsa discs glued together with grain at 90 degrees to each other. When dry, turn to final shape using a Dremel tool or electric drill for a lathe. Although I built a three bladed propeller from two, 9 inch plastic propellers, for best flight performance I suggest the use of a 10 inch plastic prop, which can easily be mated into the base of the spinner. The canopy is built by placing clear acetate sheet over the formers as shown, with a balsa plug being carved from the forward windshield, which is vacuum formed with a small Mattel Vac-U-Form, if you are lucky enough to own one. If not, I suggest that a plastic canopy from an old kit be modified as appropriate.

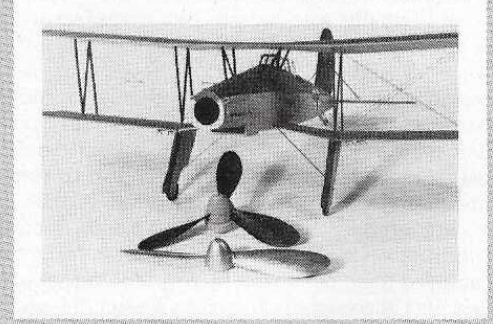
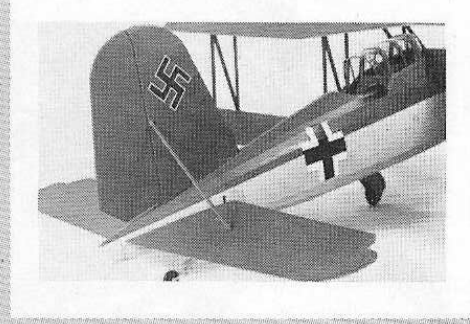
The stabilizer is made in two halves and joined through the fuselage by $\frac{1}{16}$ th aluminum tubing to insure accurate alignment. If desired, the front may be inserted through a vertically elongated slot in the fuselage to facilitate stabilizer adjustment during the trimming stages.

The charm, if such is appropriate, of this model is in the geometry of the center sections of the wings. To properly achieve this, the center sections must be jugged up and built on the jig over the plan, shimming up leading and trailing edges with scrap balsa until the glue is dry. Notice that the bottom center section spars are of $\frac{1}{16}$ th ply as this is where most loads occur and secure mounting for the under carriage is provided. The landing gear wire follows the entire bottom of the rear spar and is laced and glued in place after removing the center section from the jig. Notice the forward bend in the wire so as to rest against the forward portion of the wing chord. Do not glue ahead of the rear spar as this provides the shock absorbing capability to the gear. The landing gear fairing is made from card stock (a manila folder is fine) formed over three ribs as shown on the plan. The "knee" is added from soft scrap balsa and sanded to shape with the inside being ground out to accommodate the wheels. The landing gear wire is threaded down through the pant, which must be cut and adjusted as required. This is probably the most difficult task involved in building this model, but well worth the patience and effort required.

I covered my model entirely with white tissue in the conventional manner and applied two coats of SIG "Lite Cote" dope thinned 50%. I then sprayed on water thinned "POLLY S" paint of the specified official colors, as designed on the plans, using the gray



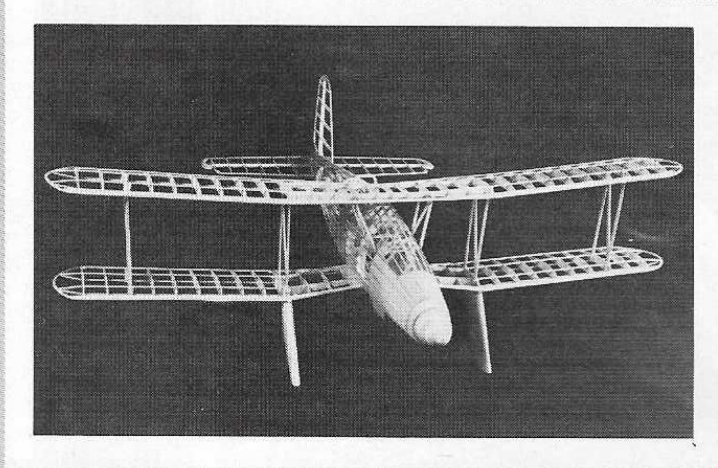
The landing gear has shock absorbing capability and uses card stock (above) for fairings. The stabilizer is built in two halves (below left) and joined by $\frac{1}{16}$ aluminum tubing. The two bladed prop (below right) yields better performance. If you choose to use one make it ten inches.



for all undersurfaces and the bottom half of the fuselage.

Final assembly must be accurate, and on a double bay biplane this is tedious, but by the use of a jig it can be done surprisingly effectively. Glide and flight trim is conventional and minor thrust adjustments may be necessary. My model required slight nose weight

being added to achieve proper C.G. location. Start with four strands of $\frac{1}{4}$ inch flat rubber and trim under light power. Add additional power as required and trim to power accordingly. You will be amazed at how this model will adapt to rubber powered realistic flight and is a potential winner at any scale competition.



Construction of this plane, as with many biplanes, is not easy but neither is it so difficult. Alignment is of paramount importance, so go carefully.



Covering is white tissue, conventionally applied, and finished with water thinned Polly S paints after applying two coats of thinned dope.